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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,524	09/20/2005	Caroline Hoemann	701826-056360	2128
7590 David S Resnick Nixon Peabody 100 Summer Street Boston, MA 02110-2131		11/01/2007	EXAMINER DAVIS, RUTH A	
			ART UNIT 1651	PAPER NUMBER
			MAIL DATE 11/01/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/521,524	HOEMANN ET AL.	
Examiner	Art Unit		
Ruth A. Davis	1651		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 17 August 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-30 and 41-44 is/are pending in the application.  
4a) Of the above claim(s) 20-29 and 41-43 is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-19, 30 and 44 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/04/9105

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1 – 30 and 44 are in the reply filed on August 17, 2007 is acknowledged. The traversal is on the ground(s) that there is a special technical feature of encapsulating cells with a chitosan gel. This is not found persuasive because encapsulating cells with chitosan gel are known in the art as evidenced by WO 02/00272, who teaches encapsulating cells with a chitosan gel of chitosan and hydroxyethyl cellulose (see applicant's own specification p.2).

The requirement is still deemed proper and is therefore made FINAL.

Claims 1 – 30 and 41 – 44 are pending; claims 20 – 29 and 41 – 43 are withdrawn as being drawn to non-elected subject matter; claims 1 – 19, 30 and 44 have been considered on the merits.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 – 4, 6, 8 – 19, 30 and 44 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling.

The presence of glyoxal, which is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The specification identifies the critical components of the invention to be a combination of chitosan and glyoxal which may encapsulate cells (page 4). However, the instant claims do not require the specified critical component of glyoxal.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 – 8 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 and its dependents are drawn to a composition, however are rendered vague and indefinite for reciting “or polyamine containing polymer” because the independent claims requires chitosan and a crosslinking solution, whereas claim 4 changes the scope from requiring chitosan, to requiring chitosan or a polyamine polymer. Moreover, the limitation broadens the claim from which it depends.

Claim 18 is rendered vague and indefinite because the claim requires a cell, however recites elements that are not cells. Specifically, organelles, matrix vesicles, cell vesicles, demineralized bone paste, and cell fragments.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1 – 3 and 13-15 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 02/00272.

WO 02/00272) teaches a cytocompatible chitosan-GP liquid solution was proposed for use in cell encapsulation based on thermogelling properties of the liquid chitosan-GP solution. Retention of viable cells in a solid chitosan gel with a composition of chitosan-GP, glucosamine, and hydroxyethyl cellulose is disclosed (applicant's own admission in specification page 2).

The reference teaches the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth A. Davis whose telephone number is 571-272-0915. The examiner can normally be reached on M-F 7:00 -3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ruth A. Davis/  
Primary Examiner  
Art Unit 1651

October 26, 2007